UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
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REPLY TO THE ATTENTION OF:
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FEB 13 2002

Mr. Johnny Reising
United States Department of Energy
Feed Materials Production Center
P.O. Box 398705
Cincinnati, Ohio 45239-8705

SRF-5J

RE: OSDF Baseline Groundwater Conditions

Dear Mr. Reising:

The United States Environmental Protection Agency (U.S. EPA) has completed its review of the United States Department of Energy's (U.S. DOE) draft data package for baseline groundwater conditions at the On-Site Disposal Facility (OSDF)Cells 1, 2, and 3.

The document provides the results of the baseline groundwater monitoring activities for the OSDF Cells 1, 2, and 3. U.S. EPA finds the document technically adequate, but has some questions regarding the interpretation of the analytical results.

Therefore, U.S. EPA disapproves the document pending receipt of adequate responses to comments and a revised document. U.S. DOE must submit a revised document and responses to comments within thirty (30) days receipt of this letter.

Please contact me at (312) 886-0992 if you have any questions regarding this matter.

Sincerely,

James A. Saric
Remedial Project Manager
Federal Facilities Section
SFD Remedial Response Branch #2

Enclosure

cc: Tom Schneider, OEPA-SWDO
Kim Chaney, U.S. DOE-HQ
Jamie Jameson, Fluor Fernald
Terry Hagen, Fluor Fernald
Tim Poff, Fluor Fernald

TECHNICAL REVIEW COMMENTS ON DRAFT "DATA PACKAGE FOR BASELINE GROUNDWATER CONDITIONS AT THE ON-SITE DISPOSAL FACILITY CELLS 1, 2, AND 3"

FERNALD ENVIRONMENTAL MANAGEMENT PROJECT

GENERAL COMMENTS

Commenting Organization: U.S. EPA Commentor: Saric
Section #: 4.0 Page #: Not applicable (NA) Line #: NA
Original General Comment #: 1
Comment: The leak detection evaluation assessments presented in Section 4.0 provide various explanations for the variations and trends noted in the data collected (analytical results, groundwater elevations, purge volumes, and so on). At this time, the assessments appear to be plausible explanations for the variations and trends observed. However, these assessments may require re-evaluation as more data become available during the monitoring period.

Commenting Organization: U.S. EPA Commentor: Saric
Section #: NA Page #: NA Line #: NA
Original General Comment #: 2
Comment: The text includes many acronyms (such as "BSL" in Figure 4-36) and abbreviations (such as "Marg. Detected" in Table 3-2). All these short forms should be defined in easy-to-locate places, such as in the acronym list on Page iv or in notes to every table or figure where they appear.

Commenting Organization: U.S. EPA Commentor: Saric
Section #: NA Page #: NA Line #: NA
Original General Comment #: 3
Comment: The text notes that many parameters, such as mercury and technetium 99, were not detected at all or were detected in only a few samples. These parameters were then dropped from further consideration. However, as long as the analytical detection limits remain reasonably stable, any positive results for these parameters at compliance (downgradient) locations, including the leachate detection system, would indicate a possible release. Procedures for evaluating future positive results for these parameters should be developed and submitted to the regulatory agencies for approval.

SPECIFIC COMMENTS

Commenting Organization: U.S. EPA Commentor: Saric
Section #: 3.1.2 Page #: 3-3 Line #: NA
Original Specific Comment #: 1
Comment: The text lists reasons that only the post-purging data were used. The text should also note that there are generally more post-purging data points than unpurged data points, which gives more statistical power to the post-purging data.

Commenting Organization: U.S. EPA Commentor: Saric
Section #: 3.1.4 Page #: 3-4 Line #: NA
Original Specific Comment #: 2
Comment: The text states that some trends are "up, marginal" as opposed to "up, significant" but does not define the terms. These terms should be defined in the text. In addition, Section 3.1.4 concludes that the observed trends result from pre-existing contaminant conditions but provides minimal explanation of this conclusion. The basis for this conclusion should be detailed in the text.

Commenting Organization: U.S. EPA Commentor: Saric
Section #: 4.1 Page #: 4-2 Line #: NA
Original Specific Comment #: 3
Comment: The text discusses concentration-time curves for constituents and concludes by proposing to evaluate such curves annually. Given the statistical anomalies discussed in Section 3.0, purely objective methods (such as statistical significance) may not be adequate to reveal leakage from the On-Site Disposal Facility. Some subjective analysis, such as evaluation of concentration time curves, would be a useful supplement. Data for and interpretation of concentration-time relationships should be submitted regularly for review by the regulatory agencies.

Commenting Organization: U.S. EPA Commentor: Saric
Section #: 4.1 Page #: 4-2 Line #: NA
Original Specific Comment #: 4
Comment: The text discusses the correlation between rising groundwater elevations and uranium concentrations. Based on data interpretation, the text states that the increases in uranium concentrations were due to mobilization of soluble uranium when the groundwater levels rose. The Department of

Energy has collected groundwater elevation and total uranium concentration data throughout the facility over the course of several groundwater investigations. The text should discuss any similar correlations between rising groundwater elevations and increased uranium concentrations observed in the monitoring wells at the facility.

Commenting Organization: U.S. EPA Commentor: Saric
Appendix #: C Page #: C-1 Line #: NA
Original Specific Comment #: 5
Comment: It was noted that the control charts in Appendix C have relatively wide limits because few data points were available. Textbooks generally recommend that control charts be created based on data for at least 20 samples rather than the 11 to 13 samples used for this appendix. Therefore, if the additional data for a parameter in a well collected over 1 year show no evidence of changes, those data should be added to the current database, and the control charts should be recalculated for use in the following year. Eventually, if the database becomes unwieldy (that is, if it grows to contain data for more than 50 or 100 samples), the oldest sample data could be deleted as data for new samples are added.

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